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ABSTRACT

The educational reform debate has produced two contrasting models for the future. The first model is one of technocratic control, which is based on the concept of standardized tests, accountability, and a quantifiable bottom-line approach to schools. The second model grows from a call for local school autonomy, teacher participation, and local initiatives. Two educational philosophers represent a challenge to the first model and offer insights that support the second model. Hans-George Gadamer warns of an unchecked influence of positivist science that would lead to a total technocracy. The alternative is to encourage the distinctive human characteristics of conversation and dialogue to reach for understanding. John Dewey is also quoted to support this notion of school reform. Dewey was in favor of a science that encouraged development and a democratic intelligence, rather than one in which specific disciplines and applications prevailed. The major theory supported in this paper is the democratic sociotechnical work theory, which is in sharp contrast to the current manipulative scientific management model. Sixteen references are appended. (LMS)

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Towards a Post-Industrial Intelligence:

Gadamer and Dewey as Guides

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Because I have been exploring work-education relations I want to broaden the topic to "What kind of post-industrial intelligence for use in work and schools?" The two are closely related. After all, the adults and children who trudge to school each day make up the single largest bloc of people at work in the United States.

For purposes of short-cut I want to suggest that the schizophrenia present in the so-called educational reform debate provides us with two models which point to the major choices: (1) the standardized test-driven accountability model guaranteed to get quantifiable bottom-line results so that we can "beat the Japanese," and (2) the recent, more muted call for local school autonomy with teacher participation and initiatives.

My argument is that the first model which may be called the technocratic control model is doing us in, in both industry and schools. Since it is so well-entrenched and taken-for-granted we need powerful insights to reveal its fatal flaws and to project ideas for alternatives. I shall argue that we can get such insights from the German philosopher Hans-George Gadamer and our own John Dewey; then I'll point to examples in work and education.

First Gadamer. He is among those like Foucault who sees an underlying threat, in our present historical situation, deriving from the influence of positivist science and rationality which arose from the Enlightenment. Unchecked it could lead to the technological nightmare in which science expands into a total technocracy.[1]

Gadamer sees modern life as one in which there is the constant threat and danger of the domination of society by technology based on positivist science, a false ideology of the expert, a manipulation of public opinion by powerful techniques, growing self-estrangement, a loss of moral and political orientation, and an undermining of the type of practical and political reason required for citizens to make responsible decisions.[2] All of this in a world being transformed by the computer electronic revolution and global interdependence.

This points toward a dualist kind of society. The majority, treated as passive objects, 1'homme machine, in the phrase of the eighteenth century philosopher Julien de la Mettrie, have their behaviors programmed by scientific-technocratic elites, who secure maximum efficiency over systems by the engineering model of quantifiable measurements of inputs to outputs.

In primitive form, as we came into the twentieth century, it was the scientific management control model of Frederick W. Taylor. By the eighties we already have in place the forerunner of new, more sophisticated micro-second controlling of people at work. An example is from a transcript of a Ted Koppel program on the monitoring of airline representatives.[3]

One of the agents told how she worked under a demerit system monitored by a computer. If she spends an average of more than 109 seconds talking to a customer she gets one demerit. If she spends more than 11 seconds in between customers she gets two demerits. After 12 seconds a light flashes on the supervisor's board who then comes in with, "Anything wrong? May I help you?" Six demerits earns a warning; thirty-six, dismissal. Another agent reported the monitoring of her time between calls, when she was heard saying a swear word to herself. It was evaluated as "evidence of a bad attitude." Six million clerical workers are now being watched by the unblinking gaze. Another

four million technical managerial people are about to be electronically evaluated in the next few years.

In schooling, of course, we find a diluted counterpart in the accountability model of sweet reasonableness which says, "If you are a reading teacher, be kind enough to demonstrate your competence by 'showing the scores.'" And not so sweetly, "And nothing else counts." In a culture enamored of quantifiable bottom line results it is not easy to combat this reductionist model. Yet there is something both functionally and morally wrong about it that corrupts the learning process for both students and teachers. We need to be able to articulate what it is.

Gadamer's hermeneutic philosophy gives us help. He shows us that the model is based on a distorted image of who we are. In Gadamer's view our distinctive human characteristic is that we are conversational or dialogical beings. We are "thrown into a world" as beings with a deep need to understand and interpret our experience. This quest for understanding or meaning is our "primordial mode of being what we most essentially are."[4] It underlies all human activity and it proceeds through the process of free conversation and dialogue. This reaching for understanding and the truth of things is the source of human dignity; it is our vocation, our calling as human beings. If institutions like work or school fail to support this primordial source of human strength they weaken themselves and the people in them. But when we design institutions that honor that central characteristic we tap the best that is in us and help people live with self-respect. Through never-ending dialogue with texts, traditions, and other humans we help people to progressively extend their "horizons of understanding"[5] about the world and themselves, and with that to cope with what life presents. .pa

Ernest Becker in The Structure of Evil gave us a phrase to capture the essence of Gadamer's image of humans. We are, Becker says, homo poeta, humans

as meaning makers, constructors of understanding who can make choices based on understanding. Or, in Becker's words, as homo poeta our need is "to stage the world so that we can act in it creatively."[6] Institutions which deny or impede that opportunity and treat us as l'homme machine need to be called what they are -- "structures of evil."

Gadamer tells us that to confront the rational control challenges of modernism we need to understand the strands of our history since the Enlightenment -- to understand what can help or hinder our human project. Two powerful contending traditions are: the tradition of democratic participation and communication, and the tradition of corporate technocratic control.

The contention becomes sharper as computer electronics multiples the power to control. We either drift towards more technocracy, or become creative in shaping technology to serve the values of homo poeta and our democratic tradition.

Reference to the democratic brings me to my argument that Dewey as well as Gadamer can help us curb the technocratic drift. The reference to Dewey may seem strange. Was it not Dewey who wearied us to death with his assurances that science was the cure for all of our problems? It is true, of course, that Dewey was part of a generation moved by the challenge of naturalistic evolution as a counter to pre-scientific traditionalism. And Dewey shared a turn-of-the-century over-optimism regarding the positive potential of science. He did not see the full extent of the ominous linkage of science to technology. We need to remember, however, that he also deplored the perversion of science and technology to serve war and what he quaintly called "pecuniary gain."

My contention, however, is that Dewey's interest in science, at base, was at sharp variance with main-line positivist science, and that there is considerable overlap with Gadamer's perspective. The rich details of

philosophical hermeneutics are lacking, but Dewey had the right hunch that the essence of humans doing science authentically is their acting as a dialogical community of inquirers.

In Problems of Men[7] Dewey argued that a more fundamental meaning of science transcends its technical aspects. In its broad sense it may be seen as a moral ideal and a liberating form of social relationship. Our disillusionment with science is so great it is hard to listen to such an argument. But to clarify the idea we may note that he made an important distinction between what he called "the scientific temper" -- a general style of inquiry and learning, and "scientific technique," his term for science in its functioning in specific disciplines and in technological applications.

It was "the scientific temper" that he turned to as a model for effective human learning and ethical guidance. In its broad sense Dewey saw the evolutionary emergence of man's capacity to do science as exemplifying our most effective form of human learning to date.

It exemplified our capacity to free our intelligence; to extend our understanding of the world and our condition. It demonstrates, as method, that mind is not an entity, but a form of acting in the world. It shows our capacity to get in touch with unsatisfying problematic situations and to create ideas as plans of action that can be tested, tried and evaluated in dialogue. The "inherent promise" of the movement of science, Dewey said, "looks forward to a time when all individuals may share in the discoveries and thoughts of others, to the liberation and enrichment of their own experience."[8] So Dewey argued for a democratic "industrial intelligence" that would not only help people solve problems at work, but would help them understand the scientific principles behind the transformation of work. They had a right to understand.[9]

Beyond that humans doing science authentically reveal the type of human relations required for creative learning. By looking at the emergence of

science as an evolutionary development it would be seen, Dewey argued, as providing an organic union between the needs of freedom and individuality on the one hand, and community and collective authority on the other. "Science," he said, "has made its way by releasing ... the elements of invention and innovation, of novel creation in individuals ... who freed themselves from the bonds of tradition."[10] At the same time the authority of scientific findings depends on its being collectively tested and developed and cooperatively confirmed in the deliberations of free inquiry.

These qualities of "the scientific temper," individuality and dialogic community were the values of a way of living — democratic living -- which supported what Dewey called "the dominant vocation of all human beings ... intellectual and moral growth"[11]. "Democracy," Dewey said in one of his most famous statements, "is a name for a life of free and enriching communion.... [It] is more than a form of government, it is primarily a mode of associated living, of conjoint communicated living." [12] The moral function of institutions was to support that form of living.

In the final analysis institutions like schools and industries cannot become "good work" places until they support the power of people to learn through "conjoint communicated living" at the work site itself. That means having the chance to be engaged in authentic interpersonal relations. It requires taking seriously the need to create smallness within bigness. In Dewey's words

> The final actuality is accomplished in face-to-face relationships by means of direct give and take. Logic in its fulfillment recurs to the primitive sense of the word: <u>dialogue</u>. Ideas which are not communicated, shared, and reborn in expression are but soliloqui, and soliloqui is but broken and imperfect thought.[13]

Thus Gadamer and Dewey made the <u>moral</u> case for a form of post-industrial intelligence that honors us as <u>homo poeta</u>, meaning makers and the dialogical-inquiry style of learning that supports it.

We are fortunate, however, that beyond the moral case there is a practical functional reason for turning toward the dialogical inquiry mode of learning and working. In the words of maverick economist, Hazel Henderson, "For the first time in history morality has become pragmatic."[14] We have entered a new era in human experience -- an era that Emery and Trist, in Towards a Social Ecology call an era of turbulent change. Turbulent change is change that is rapid and unpredictable. It is present in the great challenges we face at the close of this century, e.g., the electronic computer revolution, competition in the one world market, ecological damage to natural and social systems, the diminution of our power as we have become the world's greatest debtor nation, and our role as a shrinking white minority in a growing majority of impoverished people of color determined to take control of their own destiny away from the ruling elites with whom we are allied. (One indication is the reach by the poor in Latin America for Paulo Freire's liberatory type of dialogue in Christian Base Communities.)

In U. S. industry, able people in labor and management engaged in work reform recognize that turbulent change requires tapping the brains of people at work and their wisdom to protect human dignity. To cope with the new reality requires humans who are learning at their best with insight, understanding and eventually with moral sensitivity. (In Norway, for example, a 1977 law requires full consultation between management and labor on the human consequences of new technology before it is introduced.)[15] We crush this capacity for shared reflection by technocratic control models which, in Gadamer's view, "undermine the type of practical and political reason required for citizens to make responsible decisions." [16]

In Productive Work in Industry and Schools I reported on the emerging theory of work which challenges the manipulative scientific management model: democratic socio-technical work theory.[17] Its spokesmen charge the mainline

model with being guilty of "the technological fix" error: the tendency to assume that all problems will yield to expert-designed technical solutions. By ignoring the socio dimension, which refers to the communicative, creative capacities of people — the mainline model denies us access to the distinctive human strength we need to confront turbulent change.

In industry perceptive leaders are seeing the need to replace the Taylorist assembly line with autonomous work teams with authority, for problem-solving, for improving quality of work life, and for quality-control of their own work.

Some of these leaders are calling for the recasting of work in schools along principles of the democratic socio-technical model. A major formal effort along those lines is now under way in the disaster area of Detroit schools. Such a liberalizing form of education can be appropriate for meeting turbulent change because it requires taking seriously both sides of the hyphen — the technical and the "socio" -- skill and conceptual learning, and personal involvement and moral sensitivity.

Teachers cannot model that kind of learning if they and their students are reduced to giving true and false answers. It kills their creativity and capacity for constructing understanding and meaning.

So where does that leave us as we get ready to decide what kind of people we want to be for entering the third millennium? We are a people with a divided soul -- pulled sharply by both the bureaucratic-technocratic control model, and by values of a humane democratic tradition. The conflict will touch us at many points. It already is present in a great educational debate now shaping us for the 1990's: which set of values will guide use of the powerful tool of computer-assisted instruction?

The Office of Technology Assessment (O.T.A.) in its important 1988 report Technology and the American Economic Transition[18] is recommending a major

research effort to explore how the power of computer enhanced instruction might help us become more effective with stubborn problems of skill and conceptual training — especially with low performing students. It sees two major policy choices emerging. One, which it warns against, is to arm for a uniform national curriculum and testing system to which teachers everywhere will be made accountable. A major computer company is now moving to what could become statewide or even nationwide main frames through which uniform instructional material could be piped. Electronic monitoring of scores could "keep book" on teachers and schools everywhere.

An alternative proposal renounces the illusion of "the one right way." Apple, Inc., for example, in anticipating the near universal availability of computers ten years from now, has created "computer-saturated" classrooms in seven different school communities throughout the U.S., e.g., a Black urban school in Memphis, a rural school in Minnesota, and a Cupertino, California school in Silicon Valley. Students and teachers are provided with individual Macintosh computers at home as well as school. Apple operates on the assumption that each school culture is different, and that teachers in each setting should be free to experiment with usages to help meet their own educational goals. In those seven different schools seven different strategies and designs are emerging. I could feel excitement and commitment in the setting at West High School in Columbus, Ohio which I visited.

We see in this issue another version of the two models of school reform that we began with: standardized technocratic accountability versus local school autonomy with teacher participation, dialogue and initiative. Strong forces push us toward creating new forms of "structures of evil." We also can get glimpses of a post-industrial intelligence, informed by insights like those of Gadamer and Dewey, which could challenge the presently dominant technocratic control model. It would be a model of "good work" for industries and schools

that would be functionally appropriate for meeting the order of turbulent change. It would be morally right in that it would be congruent with the values of a high democratic culture, and our deep personal needs as homo poeta.

What are the chances? Michael Harrington in Politics at God's Funeral might be right: "If one were to calculate odds, the chances are that the dominant consciousness of the next historic era will be technocratic, elitist and manipulative."[19] But because we are homo poeta our task is not to fixate on what are the chances. Our task is to ask if we are engaged in understanding what must be done, and working to secure it. We will be acting then as homo viator, people on the way — on the way to retaining our humanity in a fearsomely new post-industrial electronic era.

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[2]Ibid., pp. 72-4. See also Richard J. Bernstein, Beyond Objectivism and Relativism. (Philadelphia: University of Pennsylvania Press, 1985), pp. 174-5.

[3]ABC News, "Surveillance on the Job" transcript, June 23, 1987.

[4]Bernstein, op. cit., pp. 144-5, and Gadamer, op. cit., p. 166.

[5]Hans-George Gadamer, Truth and Method. (New York: The Seabury Press, 1975), pp. 269-273.

[6]Ernest Becker, The Structure of Evil. (New York: The Free Press, 1968), pp. 214-5.

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[9]John Dewey, Education Today. (New York: Putnam, 1940), pp. 131-132.

[10]John Dewey, Intelligence in the Modern World, ed. Joseph Ratner. (New York: Modern Library, 1939), p. 358.

[11]John Dewey, Democracy and Education. (New York: Macmillan, 1916), p. 362.

[12]Ibid., p. 101.

[13]John Dewey, The Public and Its Problems. (Chicago: Swallow Press, 1954), p. 218.

[14]Hazel Henderson, "A New Economics," in Dyckman Vermilye, ed., Work and Education. (San Francisco: Jossey-Bass, 1977), p. 235.

[15]See Colin Norman, The God the Limps: Science and Technology in the Eighties. (New York: W. W. Norton, 1981), p. 196.

[16]See footnote 2.

[17]Arthur G. Wirth, Productive Work in Industry and Schools. (Lanham, Md.: University Press of America, 1983), see Chapter 3.

[18]Office of Technology Assessment, Technology and the American Economic Transition. (1988), in press.

[19]Michael Harrington, Politics at God's Funeral. (New York: Holt, Rinehart and Winston, 1983), p. 216.